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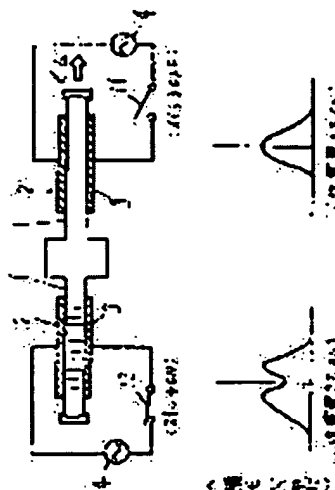
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### (54) HIGH FREQUENCY EXCITATION GAS LASER OSCILLATION DEVICE

#### (57)Abstract:

**PURPOSE:** To obtain a high frequency excitation gas laser oscillation device which is able to instantaneously vary a lateral mode by a method wherein a discharge region inside a discharge tube is made to electrically decrease or increase.

**CONSTITUTION:** A gas laser oscillation device is constituted in such a structure that discharge tubes 1 and 1 are provided in an axial direction and the supply of voltage to electrodes 2 and 3 is controlled by switches 11 and 12, and when the switch 11 is turned OFF and the switch 12 is turned ON and when both the switches are turned ON, the whole gain decreases due to the absorption of gas inside the discharge tubes 1 and 1, so that the outputted laser beams are different from each other in lateral mode form. Therefore, a high frequency excitation gas laser oscillation device able to instantaneously switch a lateral mode can be obtained, so that a processing time is remarkably shortened and an economical laser processing low in running cost can be realized.



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